

**ABSTRACT**

A method is disclosed for detecting oxidizable contaminants in gas streams at very low levels. A portion of a contaminant-containing gas stream is reacted, preferably catalytically, to effect complete oxidation of the contaminant to at least one oxidized product whose concentration in the system can be readily and quantitatively determined. Since ratio of the contaminant concentration to the product concentration is known, the method provides a simple and effective method of measuring a contaminant concentration which would otherwise be incapable of measurement or capable of measurement only very difficultly. The method is capable of attaining the detection limits required by the most demanding industrial processes of less than 1000 ppt, 500 ppt, or 10 ppt for such contaminants as hydrocarbons, organocarbons and siloxanes. Through rapid quantitative measurements of the oxidized products, contaminant concentration monitoring can operate on substantially a real time basis.